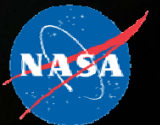


# Education

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# Education Redesign

## Programmatic Implementation

1. Focus the NASA Education Program to improve its impact on areas of greatest national need:
  - Professional training and development of educators working with middle-school age students.
  - Higher Education program that provides experiential opportunities for students.
2. Identify and strategically manage NASA Education Partnerships.
3. Participate in National and State STEM Education policy discussions.

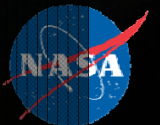
## Organizational recommendations

1. Establish a structure to allow the Office of Education, Centers, and Mission Directorates to implement a strategically integrated portfolio.
2. Expand the charter of the Education Coordinating Committee to enable deliberate education program design and evaluation.
3. Improve communication to inspire learners.



## Milestones

- Working group charters and scope of work developed.
- The process for group decision making was developed.
- The Vision Statement was formally adopted.
- The Policy Working Group was created to directly address Recommendation 3.
- Working Groups are wrapping up their initial inventories and are working towards producing their first major deliverables.
- Each working group continues to meet weekly, or bi-weekly, in accordance with their group charter. Different groups have also begun collaborating with one another to better understand linked processes that touch on multiple recommendations.
- Rubric has been developed and pilot tested.
- Partnership Inventory is ongoing across the agency to identify all collaborations and partnerships.



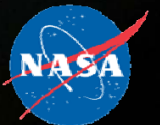
# NASA Education Vision Statement

*To advance high quality STEM education using  
NASA's unique capabilities*



## Draft Governance Charter

- The Education Coordinating Council serves as the Agency's senior decision-making body for strategic direction and planning related to education. The ECC determines NASA strategic education direction and assesses Agency progress toward achieving NASA's educational Vision.
- It also serves as the Agency's senior decision-making body regarding the integrated Agency education portfolio, and to baseline and assess the performance of NASA education projects, programs, mission directorate education portfolios, and Center education portfolios to ensure successful outcomes supporting the achievement of NASA strategic education goals and the efficient use of Agency resources.
- Authority given under 42 U.S.C. 2473(c) (1), Section 203(c) (1) and Section 203(a) (3) of The National Aeronautics and Space Act of 1958, as amended.



# ECC Working Groups

## ***R1) Programmatic Implementation:***

- A) **Portfolio Group:** Establish criteria to enable an independent portfolio review, analyze the results and make recommendations to achieve a strategically managed portfolio aligned to NASA education's focus.
- B) **Precollege/Informal Education:** Develop an implementation plan that enables the strategic execution of the agency investments in pre-college and informal education.
- C) **Higher Education:** Develop an implementation plan that enables the strategic execution of the agency investments in higher education.

***R2) Partnership Implementation:*** Establish an implementation plan that will enable NASA Education to strategically manage partnerships.

***R3/R4) Staff Development:*** Establish an organization structure, capabilities, policy and procedures, and training needs necessary for the execution of a strategically integrated portfolio.

***R5) Vision and Oversight:*** (1) Revise the ECC charter to enable deliberate program design (2) Revalidate the NASA Education Strategic Framework.

***R6) Communication:*** Develop a plan that will result in coordinated and strategic communications as it relates to NASA education.

***Coordination and Integration:*** Ensure working groups are coordinated and provide guidance to ensure implementation efforts are met in a timely and organized manner.

# Rubric

## ORIGINAL RUBRIC

### Project is Manageable

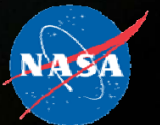
- 4) Project has a clearly defined scope with a project plan that is adhered to. Deviations from the plan are clearly explained and are based on purposeful and justifiable refinements to the project.
- 3) Project has a defined scope with a project plan. Deviations from project plan have occurred from time to time. Deviations are not purposeful.
- 2) Project has a loosely defined scope and a loosely defined plan. Project implementation tends to be ad hoc. Does not follow a clearly defined plan.
- 1) Project does not have a defined scope or plan.

### Project is Research Based

- 4) Project is clearly based on current educational research – as evidenced by a review of literature, or benchmark report that describes the current state of research in the area in which the program is focused. Clear link between the project and existing research.
- 3) Project is based on current educational research – as evidenced by a review of literature, or benchmark report that describes the current state of research in the area in which the project is focused. Link between project and existing research, but link is not always clear based on the project design.
- 2) Project design has a research basis – Project manager can point to current research which supports project design. Research on which a project is based was not systemic and thorough.
- 1) No evidence that project is based on educational research – No clear research base to support project design.

### Project has a Clear Focus

- 4) Project has a clear and singular focus and is not duplicative of other projects
- 3) Project has a primary focus and a secondary focus
- 2) Project has several goals, and focus is not clear
- 1) Project has no clear goals and no clear focus



## Rubric (continued)

### Project Evaluatable

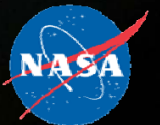
- 4) Project can be clearly evaluated – Project has clearly defined project logic, with logical connections between project inputs, activities, and outcomes. Project logic is based on current educational research.
- 3) Project can be evaluated, but “causation” between inputs, activities, and outcomes is not based on research – Project adheres to a project logic, with logical connections between project inputs, activities, and outcomes; but, connections is not based on current educational research.
- 2) Project cannot be successfully evaluated – Project logic exists, but is connections between project inputs, activities, and outcomes is vague or missing.
- 1) Project cannot be evaluated – Project logic does not exist. Project does not have clear goals or has multiple goals. No clear connection between project inputs, activities and outcomes.

### Project Evaluation

- 4) Project has a history of project evaluations. Evaluations have been appropriate for the maturity of the project. Project manager can provide clear evidence as to how evaluation results have been used to refine the project.
- 3) Project has a history of project evaluations. Evaluations have been appropriate for the maturity of the project. Project manager cannot provide clear evidence as to how evaluation results have been used to refine the project.
- 2) Project has a history of project evaluations. Evaluations conducted are not appropriate for the maturity of the project.
- 1) Project does not have a history of project evaluation.

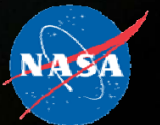
### Partnering/Synergies

- 4) Project has partners that can independently carry on the project with little or no NASA support
- 3) Project has partners that provide additional resources, synergy to reduce direct costs and offers the potential for partners to carry on the project independently with little or no NASA support
- 2) Project has partners that provide synergy and offers the potential for partners to independently carry on the project with little or no NASA support
- 1) Project has no partners



# International Partnerships

- International Astronautical Conference (IAC)
- International Space Education Board (ISEB)
- International Space Station Education Project Plan
- Committee on Peaceful Uses of Outer Space (COPUOS)



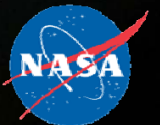
## Stakeholder Involvement

- STS-135 Students (Unconference)
- STS-134 Military Families Conference
- STS-133 Partnership Summit
- Congressional Briefings
- NSTC CoSTEM



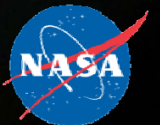
## Action Plan

- The Education Design Team recommendations will be implemented over a 24 month period, with milestones being reported on a quarterly basis.
- Programmatic milestones document planned changes associated with the portfolio of NASA Education projects and structures.
- The milestones also document staff development, which will affect NASA Education programs.
- These changes include: a systematic review of all projects in the current portfolio, followed by a report on FY13 priorities; a portfolio transition plan; and processes to measure the effectiveness of strategies that will be delivered in the fourth quarter (Partnership and Communications).



## Action Plan (continued)

- Quarters five through eight will begin the process of annually assessing and reviewing the portfolio, setting portfolio priorities, developing a portfolio implementation plan, and developing a final report on the content of the portfolio in the following year.
- Organizational milestones will continue to document planned changes to organizational structures that will support the strategic management of the portfolio.
- These milestones include: a governance model and strategic education framework, communications strategy, and organization structure (new organizational chart of NASA Education, a staff development plan, and starting in quarter five, quarterly reports of key decisions, as well as a final report that will be documented and distributed).



## Looking Towards the Future

- By 2014, NASA Education will execute a transformation of the Agency's education portfolio, consistent with the Education Design Team (EDT) recommendations, and in alignment with the Office of Science and Technology Policy Committee on STEM's Five Year Strategic Plan.
- The implementation of the EDT's recommendations will improve the efficiency and effectiveness, by which NASA Education develops, implements, and evaluates its portfolio of projects.
- This goal will create a NASA Education that is more efficient and effective in achieving it's mission.

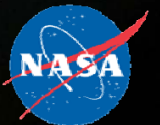
# Contributors

## Within the Agency

- Four mission directorates, NASA Office of Education, Office of Communications, and NASA center education offices.

## Outside the Agency

- Office of Science and Technology Policy, Department of Education, General Accountability Office, National Oceanic and Atmospheric Administration, Raytheon Company, and the Kentucky Space Grant Consortium.



## Key Barriers and Management Challenges

- Reduced funding, reduction of staff, and not being able to fill positions has and will create challenges to the implementation of current programs, while at the same time implementing the EDT recommendations.
- The highly politicized nature of the NASA budget and timing of when the NASA budget is passed create barriers and management challenges for implementing the recommendations and portfolio.
- Retraining and redistribution of skill mixes and personnel needed for the implementation of the new portfolio make the implementation of the revised portfolio challenging.